Solar Energy Task Force of Lake County Communities

I. INTRODUCTION

This Model Ordinance was developed by the Solar Energy Task Force of Lake County Communities, a cooperative effort by representatives from more than eighteen local jurisdictions with technical assistance from the Solar Foundation and National Renewable Energy Laboratory. Lake County Communities include the different jurisdictions of the local municipalities and unincorporated areas of Lake County. The Solar Energy Task Force encourages each Lake County Community to evaluate the separate provisions of this Model Ordinance, with attorney review, to assure that the guidelines will suit their own particular needs, including the decision to allow their solar energy systems as permitted or as a Conditional or Special Use permit.

II. PURPOSE AND INTENT

i. To establish reasonable and uniform regulations for the location, installation, operation, maintenance, and decommissioning of solar energy systems.

ii. To assure that any development and production of solar energy in [the Lake County Community]* is safe and to minimize any potentially adverse effects on the community.

iii. To promote the supply of sustainable and renewable energy resources in support of national, state, and local goals.

iv. To facilitate energy cost savings and economic opportunities for [Lake County Community]* residents and businesses.

*If including a purpose and intent section into a resolution or ordinance, replace text in brackets with the name of the appropriate jurisdiction.

III. HOW TO USE THE MODEL ORDINANCE

The regulatory language provided here is not intended to be a stand-alone section of a zoning ordinance. This model ordinance assumes that municipalities have typical sections within their codes, and that several of these sections will be amended to fit their community's needs. Within this model ordinance, the sections that may need to be amended include: Definitions, Use Regulations, Review Procedures, Dimensional Standards, Additional Provisions and Exceptions, and Decommissioning. These are listed below in Sections 1.0 through 6.0, respectively. Please note, each subsection listed (ex. Section 1, 1.1, 1.1.2, etc.) is a generic heading and will need to be modified to fit each communities' regulatory language and framework.

Options: For text marked as "Option" in the model ordinance, each community can independently decide to include or remove it. In some instances, the "Option" is intended to expand on the recommended language above it, in other cases it is meant to serve as a replacement for the text above. If the language is to be incorporated into the text, the heading of "Option" should be removed, otherwise, the entire section should be deleted. If the optional text is intended as a replacement, remove the preceding section.

Use Regulations: In addition to the Use Regulation section(s) pertaining specifically to zoning district classifications, this model ordinance offers regulations for residential zoning districts based on lot size. For the purpose of this model ordinance, residential districts are divided into small, medium, and large lot districts, however, communities likely use more specific designations such as residential-1, residential-6, estate, et and the language should be tailored to reflect communities' individual designations. The model ordinance also offers regulations for agricultural districts, which accommodate large lot agricultural land uses and institutional districts, which include campus settings such as schools, churches, or hospitals.

Accessory vs. Principal Use: With ground-mounted solar energy systems, the definition for principal and accessory uses will likely vary from community to community. This model ordinance assumes that municipalities will have definitions of accessory and principal uses within their zoning ordinances and that solar energy systems will be classified in accordance with existing provisions. Otherwise communities will need to amend their codes to specifically define principal or accessory solar energy systems.

Types of Solar: While it is anticipated that installed solar systems will most frequently be photovoltaic, this model ordinance uses the broader term of a solar energy system, which includes solar thermal systems. Please note, this model ordinance expressly prohibits concentrated solar thermal system, however, nonconcentrated solar thermal systems shall be allowed (e.g. solar hot water heating).

Solar Energy Systems
Model Ordinance

1.0 DEFINITIONS

Building-integrated Solar Energy System: An active solar energy system that is an integral part of a principal or accessory structure, rather than a separate mechanical device, replacing or substituting for an architectural or structural component of the building. Building-integrated systems include, but are not limited to, photovoltaic or hot water solar energy systems that are contained within roofing materials, windows, skylights, or awnings.

Concentrated Solar Thermal Technology: A solar energy technology that uses lenses or mirrors, and often tracking systems, to focus or reflect a large area of sunlight into a small area.

Ground-mounted Solar Energy System: A solar energy system mounted on a rack or pole that is attached to or ballasted on the ground. Ground-mounted systems can be either accessory or principal uses.

Roof-mounted Solar Energy System: A solar energy system that is fastened to or ballasted on a building roof. Roof-mounted systems are accessory to the principal use.

Solar Array: A solar array is a group of solar panels wired together. An array consists of multiple solar modules (solar panels).

Solar Energy System: A device or structural design feature to provide for the collection, storage and distribution of solar energy for space heating or cooling, electricity generation, or water heating.

Solar Energy System, Large-Scale: A ground-mounted solar energy system that occupies more than 40,000 square feet of surface area (Option: equivalent to a rated nameplate capacity of about 250kW DC or greater).

Solar Energy System, Medium-Scale: A ground-mounted solar energy system that occupies more than 1,750 but less than 40,000 square feet of surface area (Option: equivalent to a rated nameplate capacity of about 10 - 250 kW DC).

Solar Energy System, Small-Scale: A ground-mounted solar energy system that occupies 1,750 square feet of surface area or less (Option: equivalent to a rated nameplate capacity of about 10 kW DC or less).

Solar Panel: A device that is used to convert radiant solar energy into electrical current.

Option:

Rated Nameplate Capacity: The maximum rated output of electric power production of the photovoltaic system in watts of Direct Current (DC).

2.0 USE REGULATIONS

2.1 USE TABLE

Principal Use	Residential Small Lot	Residential Medium Lot	Residential Large Lot	Commercial	Industrial	Institutional/ Agricultural
Solar Energy System, Large-Scale	C/S* (Option: N)	C/S*	C/S*	C/S*	P*	C/S*
Solar Energy System, Medium-Scale	C/S* (Option: N)	C/S*	C/S*	P*	P*	C/S* (Option: P)
Solar Energy System, Small-Scale	P (Option: C/S)	P (Option: C/S)	P (Option: C/S)	P	P	P

Accessory Use	Residential Small Lot	Residential Medium Lot	Residential Large Lot	Commercial	Industrial	Institutional/ Agricultural
Building-Integrated Solar Energy System	P	P	P	P	P	P
Roof-Mounted Solar Energy System	P	P	P	P	P	P
Solar Energy System, Large-Scale†	C/S* (Option: N)	C/S*	C/S*	C/S*	P*	C/S*
Solar Energy System, Medium-Scale†	C/S* (Option: N)	C/S*	C/S*	P	P	P
Solar Energy System, Small-Scale†	P	P	P	P	P	P

N = Not Permitted P = Permitted C/S = Conditional or Special Use Permit *General Development Standards Apply

Option

† Accessory use ground-mounted solar energy systems of all sizes (small, medium, or large) shall be permitted in all zoning districts for those institutional, commercial, or industrial uses with campuses comprised of 10 acres or more.

2.2 USES LISTED (ALTERNATIVE FORMAT TO USE TABLE)

Residential Districts:

Section 1: Uses Permitted

1.1 Building-Integrated Solar Energy Systems

1.2 Roof-Mounted Solar Energy Systems

1.3 Small-Scale Solar Energy Systems (Accessory or Principal Use)

Section 2: Uses Permitted by Conditional/Special Use

2.1 Medium-Scale Solar Energy Systems (Accessory or Principal Use)

2.2 Large-Scale Solar Energy Systems (Accessory or Principal Use)

Option:

Section 3: Uses Not Permitted

3.1 Medium-Scale Solar Energy Systems in Residential – Small Lot (Accessory or Principal Use)

3.2 Large-Scale Solar Energy Systems in Residential – Small Lot (Accessory or Principal Use)

Section 4: Uses Permitted by Conditional/Special Use

4.1 Small-Scale Solar Energy Systems in Residential – Small, Medium or Large Lot (Principal Use)

Commercial Districts:

Section 1: Uses Permitted

1.1 Building-Integrated Solar Energy Systems

1.2 Roof-Mounted Solar Energy Systems

1.3 Small-Scale Solar Energy Systems (Accessory or Principal Use)

1.4 Medium-Scale Solar Energy Systems (Accessory or Principal Use)

Section 2: Uses Permitted by Conditional/Special Use

2.1 Large-Scale Solar Energy Systems (Accessory or Principal Use)

Industrial Districts:

Section 1: Uses Permitted

1.1 Building-Integrated Solar Energy Systems

1.2 Roof-Mounted Solar Energy Systems

1.3 Small-Scale Solar Energy Systems (Accessory or Principal Use)

1.4 Medium-Scale Solar Energy Systems (Accessory or Principal Use)

1.5 Large-Scale Solar Energy Systems (Accessory or Principal Use)

Institutional/Agricultural Districts:

Section 1: Uses Permitted

1.1 Building-Integrated Solar Energy Systems

1.2 Roof-Mounted Solar Energy Systems

1.3 Small-Scale Solar Energy Systems (Accessory or Principal Use)

1.4 Medium-Scale Solar Energy Systems (Accessory Use)

Section 2: Uses Permitted by Conditional/Special Use

2.1 Large-Scale Solar Energy Systems (Accessory or Principal Use)

2.2 Medium-Scale Solar Energy Systems (Principal Use)

Option:

Section 1: Uses Permitted

1.5 Medium-Scale Solar Energy Systems (Principal Use)

3.0 REVIEW PROCEDURES

3.1 GENERAL DEVELOPMENT STANDARDS

Section 1: Applicability

1.1 Medium and Large-scale solar energy systems proposed within all zoning districts shall comply with the general development standards as specified within this code. These standards shall include landscape buffering, natural resource protection provisions, signage, outdoor lighting, and traffic/access. Approval of general development standards may be obtained concurrently at the time of any required Special/Conditional Use or prior to permit issuance for those uses permitted in the underlying zoning district.

4.0 DIMENSIONAL STANDARDS

4.1 SETBACKS AND LOT COVERAGE

Section 1: Principal Use Setbacks

1.1 Medium and Large-Scale ground-mounted solar energy systems must meet the setback requirements for a principal structure in the underlying zoning district.

Option:

In addition to setback requirements for principal structures, Medium and Large-Scale ground-mounted solar energy systems shall be located a minimum of 100 feet from any existing residential structures on any adjoining parcel.

Section 2: Accessory Use Setbacks

2.1 Small and Medium-Scale ground-mounted solar energy systems must meet the setback requirements for an accessory structure in the underlying zoning district.

Option:

In addition to setback requirements for accessory structures, ground-mounted accessory use solar energy systems shall be located a minimum of thirty (30) feet from any existing habitable structures on any adjoining parcel.

Section 3: Street Setbacks

3.1 Accessory use ground-mounted solar energy systems located in residential zoning districts shall not be located between the principal building and any road right-of-way.

Section 4: Lot Coverage

4.1 Ground-mounted solar panels shall not be included in calculations for lot coverage or Impervious Surface Ratio (ISR).

Section 5: Accessory use lot coverage

5.1 Accessory use ground-mounted solar energy systems accessory to residential uses located in residential zoning districts shall not exceed 5% of the net buildable area of a lot, or 500 square feet, whichever is less.

Option:

5.2 Accessory use ground-mounted solar energy systems located in residential zoning districts shall not exceed 10% of the rear yard area.

4.2 HEIGHT

Section 1: Ground-Mounted Principal Use Height

1.1 The total height shall not exceed 15 feet, as measured from grade to the highest point of the solar arrays.

Option:

The total height shall not exceed 10 feet, as measured from grade to the highest point of the solar arrays. In instances when greater height is deemed necessary to allow for maximum efficiency of the solar energy system, or when necessary to address site constraints such as topography, the Planning Director shall be authorized to allow a maximum height of 15 feet.

Section 2: Ground-Mounted Accessory Use Height

2.1 The total height shall not exceed 10 feet, as measured from grade to the highest point of the solar arrays. In instances when greater height is deemed necessary to allow for maximum efficiency of the solar energy system, or when necessary to address site constraints such as topography, the Planning Director shall be authorized to allow a maximum height of 15 feet.

Option:

The total height shall not exceed 15 feet, as measured from the grade to the highest point of the solar arrays.

Section 3: Roof-Mounted Height Exception

3.1 Roof-mounted solar energy systems are exempt from zoning district height limits. However, roof-mounted solar energy systems shall not exceed six feet above the height of the building, or the minimum height required to meet applicable building or fire regulations.

Option:

Roof-mounted solar energy systems are exempt from zoning district height limits on structures with a flat roof and shall not exceed six feet above the height of the building, or the minimum height required to meet applicable building or fire regulations. Roof-mounted solar energy systems on structures with a pitched roof may not exceed the zoning district height limits and shall be flush-mounted.

5.0 ADDITIONAL PROVISIONS AND EXCEPTIONS

Section 1: Exceptions

1.1 Ground-mounted accessory solar energy systems shall not be counted towards the maximum number of accessory structures on a single parcel, provided they comply with all other general accessory use standards.

1.2 Mechanical and electrical storage systems associated with solar energy systems may encroach into required setbacks, provided they do not encroach more than three feet into a required setback and are located at least four feet from all lot lines.

Option:

1.2 Accessory use ground-mounted solar energy systems may encroach into required setbacks, provided they do not encroach more than three feet into the required setback and are located at least four feet from all lot lines.

Section 2: Utility Connection

2.1 A principal use solar energy system connected to the utility grid must provide written authorization from the local utility company acknowledging and approving such connection prior to building permit issuance.

Section 3: Lighting

3.1 Lighting of ground-mounted solar energy systems shall be consistent with local, state, and federal laws. Lighting of other parts of the installation, such as appurtenant structures, shall be limited to that required for safety and operational purposes, and shall be reasonably shielded from abutting properties. Where feasible, lighting of the solar energy system shall be directed downward and shall incorporate full cut-off fixtures to reduce light pollution.

Section 4: Signage

4.1 Signs on principal use ground-mounted solar energy systems shall comply with the signage requirements of the underlying zoning district. A sign consistent with a municipality's sign bylaw/ordinance shall be required to identify the owner and provide a 24-hour emergency contact phone number.

Section 5: Native Plantings

5.1 In order to prevent erosion, manage run-off, and provide ecological benefit, medium and large-scale ground-mounted solar energy systems shall be planted with "low-profile" native prairie species, and use a mix appropriate for this region and site-specific soil conditions.

Option:

Commentary: Pollinator Friendly Solar Site Act, 525 ILCS 55/1, establishes a scorecard for solar site vegetation that provides foraging habitat for game birds, songbirds, and pollinators, and prevents weeds, reduces storm water runoff, and erosion.

Section 6: Concentrated Solar Technology

6.1 No solar energy system may utilize concentrated solar thermal technology in any zoning district.

6.0 DECOMMISSIONING AND ABANDONMENT

Section 1: Removal Requirements

1.1 Any ground-mounted solar energy system which has reached the end of its useful life or has been abandoned shall be removed. The owner or operator shall physically remove the installation no more than 150 days after the date of discontinued operations. The owner or operator shall notify the permitting authority by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of:

1.1.1 Physical removal of all solar energy systems, structures, equipment, security barriers and electrical wiring lines from the site.
1.1.2 Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
1.1.3 Stabilization or re-vegetation of the site as necessary to minimize erosion. The permitting authority may allow the owner or operator to leave landscaping or designated below-grade foundations or electrical wiring in order to minimize erosion and disruption to vegetation.

1.2 Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, a principal use or accessory use medium/large scale ground-mounted solar energy system shall be considered abandoned when it fails to operate for more than one year without the written consent of the permitting authority. If the owner or operator of the solar energy system fails to remove the installation in accordance with the requirements of this section within 150 days of abandonment or the proposed date of decommissioning, the permitting body having jurisdiction retains the right, after the receipt of an appropriate court order, to enter and remove an abandoned, hazardous, or decommissioned ground-mounted solar energy system and lien the property for such costs. As a condition of Site Plan and/or Special/Conditional Use Permit approval, the applicant and landowner shall agree to allow entry to remove an abandoned or decommissioned installation.

Option

Section 2: Decommissioning Plan and Assurances

2.1 Prior to permit issuance, the operator shall prepare a decommissioning plan which shows the final site conditions after a principal use or accessory use medium/large scale ground-mounted solar energy system has been removed from the property. Decommissioning shall include the removal of all elements listed in sections 1.2.1 above. Access roads, fencing, groundcover, and landscaping may remain only if it can be shown to be compatible with the future use of the property.

2.2 Prior to permit issuance, the operator shall submit an engineer's estimate of probable cost for decommissioning the principal use or medium/large scale ground-mounted solar energy system and restoring the site in accordance with the approved decommissioning plan. Upon review and approval of the estimate, by the Planning Director the operator shall obtain a bond, letter of credit, or other form of surety acceptable to the permitting authority in the amount of 130% of the engineer's estimate.